Installation Guide

AUREAL

VCOM V90™ PCI Data/Fax Modem

July 1999

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Technical Support

For technical support, please contact your PC system vendor for support. Aureal does not provide phone or e-mail support; however, you may refer to the Aureal website (http://www.aureal.com) for the latest support FAQs and drivers for Aureal-based product.

Warranty

Your Vcom V90 PCI modem card comes with a one-year hardware warranty. Aureal Inc. (Aureal) warrants the Vcom V90 PCI modem card against defects in material and workmanship for a period of one year from the date of purchase from Aureal or an authorized Aureal agent. This warranty applies only to the original purchaser of the Vcom V90 PCI modem card and is not transferable. This warranty does not cover any incompatibilities due to the user's computer, hardware, software or any other related system configuration with which Vcom V90 PCI modem card interfaces. Proof of purchase will be required before any warranty consideration by Aureal occurs.

This warranty does not cover any damage caused by negligence, non-authorized modifications, or parts installed without prior written permission from Aureal. This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication, nor as a result of service to the product by anyone other than by Aureal.

This product is intended for sale with a computer system through a system integrator. Retail distribution of this product voids the hardware warranty.

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Some states do not allow limitation of implied warranties, or exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights. You may have other rights which may vary from state to state. This warranty applies only to this product, and is governed by the laws of the State of California .

Document Number: DO3000-071399

Regulatory Information

Statement of Compliance to FCC Part 15

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential or business installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference won't occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you can try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that which the receiver is connected.
- Consult the dealer or an experienced TV/radio technician for help.

Any changes or modifications to this equipment not expressly approved by the manufacturer could void you authority to operate this equipment. Operation is subject to the following two (2) conditions:

1 This device may not cause harmful interference.

2 This device must accept any interference received, including interference that may cause undesired operation.

Statement of Compliance to FCC Part 68

The Vcom V90 software modem card complies with Part 68 of the FCC rules. On the lower left, backside of the PCB is a label that contains, among other information, the FCC registration number and the ringer equivalence number (REN) for this equipment. If requested, you must provide this information to your telephone service provider.

List of USOCs, Plug, and Jack Compliance

The Vcom V90 software modem card uses an RJ11C for connection to the telephone network. Please note that all plugs and jacks used to connect this device to a telephone network must comply with FCC Part 68 rules.

REN Statement

The Vcom V90 software modem card is assigned a ringer equivalence number (REN). This number is used to determine how many devices may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of all the RENs connected to a single line should not exceed five (5.0). Contact your telephone service provider to determine (by the total RENs) the number of devices that may be connected to a line.

Telco Harm Statement

If the Vcom V90 software modem card causes harm to the telephone network, your telephone service provider will notify you in advance that temporary discontinuance of service may be required. But if advanced notice isn't practical, your telephone service provider will notify you as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

Telco Change Notice

Your telephone service provider may make changes in it's facilities, equipment, operations, or procedures that could effect the operation of this equipment. If this happens your telephone service provider will provide advance notice in order for you to make the necessary modifications to maintain uninterrupted service

Warranty and Repair Information

If you experience problems with the Vcom V90 Data/Fax software modem and require repair or warranty information, please contact Aureal Inc. at (510) 252-4332.

If the modem is causing harm to the telephone network, your telephone service provider may request that you disconnect the modem until the problem is resolved.

User Repairs

The Vcom V90 software modem card has no user-serviceable parts.

Public Coin Service Notice

FCC prohibits the use of this modem on any public coin phone service provided by your telephone service provider. Connection to party line service is subject to tariffs (Contact your state's public utility commission, public service commission, or corporate commission for information).

Electrical Safety Advisory

It is strongly advised that you install an AC surge arrestor between the AC power outlet (wall) and the PC in which this device is installed. Telephone companies report that electrical surges, typically lightning transients, are very destructive to customer terminal equipment (such as the Vcom V90 software modem card).

Fax Branding

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including fax machines, to send any message unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, other entity or individual. (The telephone number provided may not be a 900 number or any other number for which charges exceed local or long distance transmission charges.)

This product contains provisions for fax branding. It is up to the end user to ensure that any fax software used with this modem complies to, and is properly configured for, fax branding.

Statement of Compliance to Canadian Regulations

NOTICE:

The Industry Canada (IC) label identifies Certified Equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements documents. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection.

Users should be aware that compliance with the above conditions might not prevent degradation of service in some situations.

A representative designated by the supplier should coordinate repairs to Certified Equipment. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are all connected together. This precaution may be particularly important in rural areas.

CAUTION:

Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or an electrician, as appropriate.

Ringer Equivalent (REN):

The ringer equivalence number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination of an interface may consist of any combination of devices subject only to the requirement that the sum of the ringer equivalence numbers of all the devices does not exceed five (5.0).

On the lower left, backside of the PCB is a label that contains, among other information, the FCC registration number and the ringer equivalence number (REN) for this equipment.

For warranty repair, please see the above section: Warranty.

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System Requirements

- 300 MHz Pentium®-class processor (or equivalent)
- 8 megabytes (MB) of hard disk space
- An empty PCI expansion slot
- Microsoft Windows® 95 or Windows 98® operating system
- 16 MB of RAM

An electronic version of this manual may be located on the Vcom V90 driver CD.

1. **Install the Adobe® Acrobat® Reader**

   Double-click the ar40eng.exe file in the \Acrobat directory and follow the on-screen instructions.

2. **Use the Acrobat Reader to open the Acrobat file (.pdf).**

   The file may be located in the \Manual directory of the Vcom V90 driver CD. For example:

   `\Manual\English.pdf`

Installing the Hardware

Before Installing

- Be sure that your operating system is installed and functioning properly.
- Determine which operating system you are running (Windows 98 or Window s95) and which version.

  Windows 95 has three versions. To determine which version you are running, right-click on the My Computer icon on your desktop and select Properties from the popup menu. Under System, your current operating system and version are displayed.
- Uninstall the drivers for any previously installed modems.

  Consult the documentation that came with the modem for instructions on how to remove the drivers from your system.
- Handle plug-in cards by their edges and do not directly touch exposed components or connector contacts.
- Please read the readme file on the installation CD. It contains the latest information about your Vcom V90 PCI modem card.

Installing the Vcom V90 PCI Modem Hardware

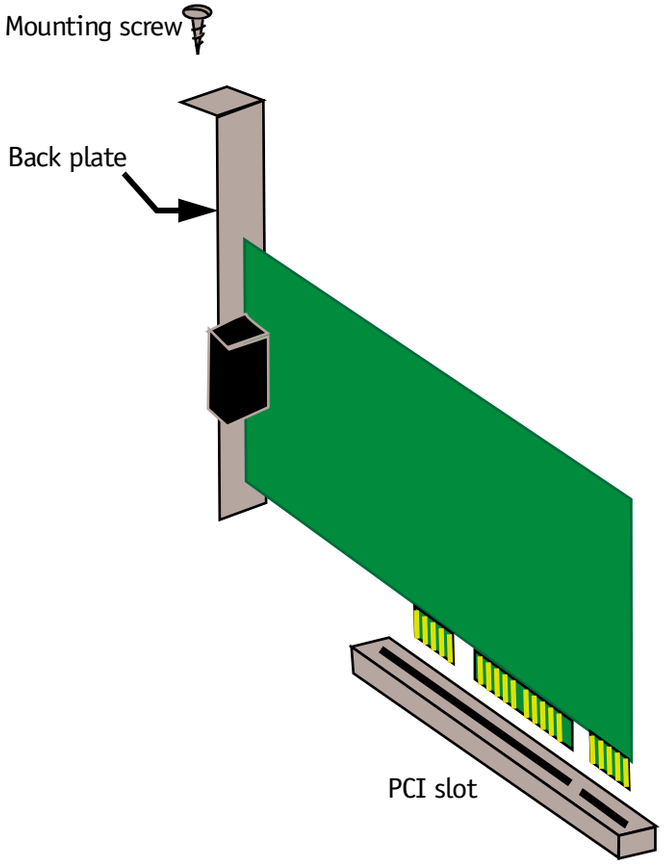
IMPORTANT: Static charges can damage electronic components. Ground yourself by touching the computer's metal case or back bracket before handling any card.

1. **Shut down, turn off, and unplug your computer.**
2. **Unplug the power cable from the computer.**
3. **Remove the computer cover and any ISA or PCI modem cards.**

   Be sure to save any mounting screws.
4. **Insert the Vcom V90 PCI modem card firmly into an empty PCI slot.**

   Carefully press it evenly and snugly into the slot. Secure it with a mounting screw
5. **Replace the computer cover and plug the computer power cable back in.**

Vcom V90 Card Internal Connections



6. **Connect the phone line from the wall jack to the jack with the symbol on the back plate of the card.**

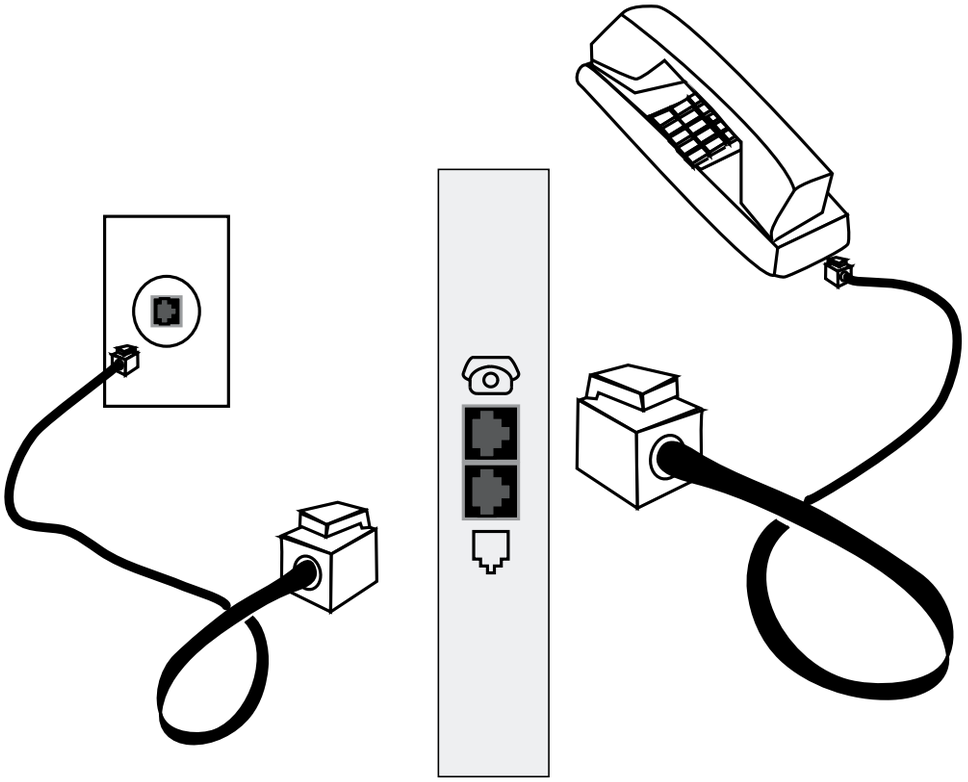
   Use the line you currently use to connect from the wall to your phone now.

7. **Connect the jack with the symbol on the back plate of the card to your telephone.**

   Use the telephone cable provided with your modem card.

8. **Turn on your computer.**

Back Plate Connectors



Installing the Drivers

This section describes the driver installation procedure for your Vcom V90 PCI modem card. Review the following procedures carefully and choose the procedure for the operating system you are using on your computer. If you are unsure of which operating system you are using, see "Before Installing" on page 2.

Windows 95 (version 4.00.950) Driver Installation

After starting your computer, the New Hardware Found dialog box appears.

1. **Insert the Vcom V90 PCI installation CD into your CD-ROM drive.**
2. **Select the option "Driver from disk provided by hardware manufacturer" and click OK.**
3. **In the space "Copy manufacturers files from", type the letter of your CD-ROM drive and the directory name ":\win9x\english" and click OK.**

   For example: `D:\win9x\english`
4. **Restart your computer if Windows requests it.**

Windows 95 OSR2.x (version 4.00.950 B or 4.00.950 C) Driver Installatio

After starting your computer, Windows starts the Update Device Driver Wizard.

1. **Insert the Vcom V90 PCI modem installation CD into your CD-ROM drive and click Next.**

   Windows now searches for the location of the driver files. Wait a few moments until you see the Other Locations button before continuing.

2. **Click Other Locations.**

3. **Type the letter of your CD-ROM drive and the directory name ":\win9x\english" and click OK.**

   For example: `D:\win9x\english`

4. **Click Finish.**

   At this point an error message "Insert Disk" may appear. This is an error with some versions of the Windows 95 operating system. Click OK and enter the same drive letter and directory you entered in step 3 in the space labeled "Copy files from:".

   The driver files are copied to their destination directories. Windows now copies the Aureal Software Modem driver files to your hard disk

5. **Restart your computer if Windows requests it.**

Windows 98 Driver Installation

After starting your computer, Windows starts the Add New Hardware wizard.

1. **Insert the Vcom V90 PCI modem installation CD into your CD-ROM drive and click Next.**

   Windows prompts you with two options for finding the drivers.

2. **Select "Search for the best driver for your device" and click Next.**

   You are offered several search options.

3. **Select the "Specify a location" option.**

4. **Type the letter of your CD-ROM drive and the directory name ":\win9x\english" and click OK.**

   For example: `D:\win9x\english`

5. **Click Next.**

   Windows confirms it has located the drivers for the Aureal Software Modem.

IMPORTANT: If the drivers could not be located, click Back and verify that the correct path to the Vcom V90 PCI modem installation CD has been entered.

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6. **Click Next.**

   Windows 98 now copies the Aureal Software Modem driver files to your hard disk, and informs you when this task is completed.

7. **Click Finish.**

8. **Restart your computer if Windows requests it.**

Verifying Your Modem Installation

After installing your Vcom V90 PCI modem you should verify that it has been installed properly

1. **Open the Control Panel window.**

   To open the Control Panel window, click Start | Settings | Control Panel on the taskbar.

2. **Double-click the Aureal Software Modem icon.**

   This opens the Aureal PCI Software Modem dialog box.

3. **Click Properties.**

   This opens the Modems Properties dialog box.

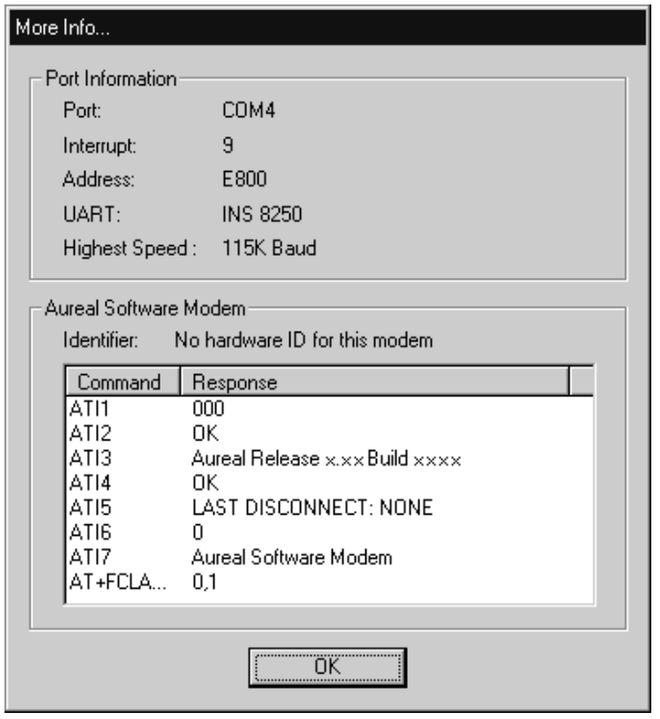
4. **Click the Diagnostics tab.**

   This shows your computer's current COM port configuration.

5. **Select the COM port to which the Aureal software modem was installed.**

6. **Click More Info ...**

   This starts the modem diagnostics. Windows informs you that the diagnostic may take a few minutes to run. If successful the More Info ... dialog box may appear similar to what's shown here.



   If the diagnostic fails see "Troubleshooting" on page 11.

Uninstalling the Vcom V90 PCI Modem

If you want to install another modem card or if there is a problem with the installation, you may need to uninstall the Vcom V90 PCI software modem. This is a two part process. First you remove the modem drivers, then remove the modem hardware.

Removing the Drivers

To uninstall the Vcom V90 modem software, choose the uninstall procedure appropriate to your computer's operating system.

IMPORTANT: Do not use the Windows Device Manager to remove the drivers.

Uninstalling Vcom V90 PCI Modem Drivers

1. **Open the Control Panel window.**

   Click Start | Settings | Control Panel on the task bar.
2. **Double-click the Add/Remove Programs icon.**
3. **Select Aureal Software Modem Uninstall.**
4. **Click Add/Remove...**

   The uninstall program prompts you to OK uninstalling the modem.
5. **Click OK.**

   The software is removed from the system. Windows prompts you to restart your computer.
6. **Click Cancel and shutdown your computer.**

Removing the Modem Hardware

After removing the modem drivers and shutting down your computer, you can safely remove the modem hardware.

1. **Shut down, turn off, and unplug your computer.**
2. **Unplug the power cable from your computer.**
3. **Remove the computer cover.**
4. **Remove the Vcom V90 PCI software modem card.**

   You can now put your computer back together and restart your computer.

Troubleshooting

Please read the readme file located on your Vcom V90 PCI modem installation CD. It contains the latest information and known issues regarding your Vcom V90 PCI modem card.

Before checking anything else, check the following:

- All your connections are good (cables, card, etc.)
- No other modem cards are installed in your computer
- No conflicts with your modem.

You might also try uninstalling and reinstalling your modem.

If the solutions provided here don't answer your questions consult the online help for more information. See "Accessing the Online Help" on page 14.

There is a conflict with my modem.

- Another device may be conflicting with your modem. Use the Windows Device Manager to check for a conflict.

  To open the Device Manager, right-click the My Computer icon on your desktop and select Properties from the popup menu. Click the Device Manager tab.

  An exclamation icon next to your modem device indicates a problem. Double-click the device to open the device properties. The Device status box indicates the source of the problem.

  You may have to manually adjust the resources. Click the resources tab and deselect the Use automatic settings tab. This enables the Change Setting... button. Select the resource type that is causing the conflict and click Change Setting. Change the value until no devices are conflicting. If you can't change the modem device setting, try changing the settings of the device that is conflicting with the modem.

My modem isn't working.

- Are the telephone cables connected correctly?
- Is there a resource conflict with another device? See "There is a conflict with my modem." on page 12.
- Check the settings for your PCI BIOS.

  Make sure that the PCI slot used by Vcom V90 PCI modem is properly configured and enabled. If you have an older PCI BIOS you may need to obtain an upgrade from you system or BIOS manufacturer.
- Make sure PCI bus mastering is enabled.

Accessing the Online Help

Online help is installed with the modem drivers. Use it as an additional resource to answer questions not answered in this manual.

1. **Open the Control Panel window.**

   To open the Control Panel window, click Start | Settings | Control Panel on the taskbar.

2. **Double-click the Aureal Software Modem icon.**

   This opens the Aureal PCI Software Modem dialog box.

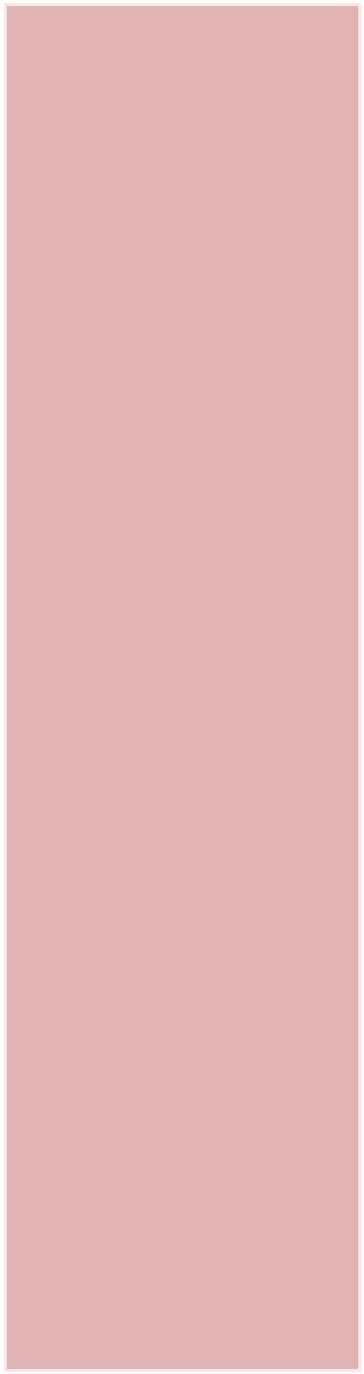
3. **Click User's Guide.**

   The online help opens.

Customer Support

For customer support, please contact your computer vendor for support. Aureal does not provide phone or e-mail support; however, you may refer to the Aureal website for the latest support FAQs and drivers for Aureal-based products.

World Wide Web: www.aureal.com



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